12/20

Name: Georgi Vazquez Melendez Date:

Polynomial Operations EXAM (version 117)

1. Let polynomials $p(x)$ and $q(x)$ be defined below.

$$p(x) = 6x^5 + 7x^4 + 4x^3 - 2x + 1$$

$$q(x) = -x^5 + 5x^4 - 3x^2 - 6x + 2$$

Express the sum of $p(x) + q(x)$ in standard form.

$5x^5 + 12x^4 + 4x^3 - 3x^2 + 4x + 3$

$-8x$ 3/4

2. Let polynomials $a(x)$ and $b(x)$ be defined below.

$$a(x) = 3x^2 - 4x - 6$$

$$b(x) = 7x + 3$$

Express the product $a(x) \cdot b(x)$ in standard form.

$-54x$

$21x^3 - 19x^2 - 30x - 18$

	$3x^2$	$-4x$	-6
$7x$	$21x^3$	$-28x^2$	$-42x$
3	$9x^2$	$-12x$	-18

$-28 + 9$

-42

3/4

3. Express $(x+1)^6$ in standard (expanded) form.

3/4

$x^6 + 6x^5 + 15x^4 + 20x^3 + 15x^2 + 6x + 1$

1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1